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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/067,292	02/07/2002	Kazutaka Hara	Q68448	7910

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EXAMINER

PARKER, KENNETH

ART UNIT	PAPER NUMBER
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2871

DATE MAILED: 09/22/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/067,292	<b>Applicant(s)</b> HARA ET AL.	
	<b>Examiner</b> Kenneth A Parker	<b>Art Unit</b> 2871	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All   b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                  | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). ____.  |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)         | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____. | 6) <input type="checkbox"/> Other: _____                                    |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

**Claims 6-9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.**

The polarizer being the backlight is nonsensical, as the disclosed polarizers don't emit light. Additionally, the language contradicts the limitation of the parent claim which indicates that the polarizer is a separate element. It is presumed to mean that the polarizer polarizes the light from the light source, and examination has been done based upon this interpretation.

Regarding claims 7-9, what constitutes a "reduction in light" cannot be determined. As the element is a polarizer, presumably it reduces light by 50% if it is unpolarized. It is possible that applicant is claiming the device compared to some unknown standard (like some other device), in which case the claim is further indefinite as there is no way to determine a comparison to a standard that is known. Additionally, exactly what components are "reducing the light" in accordance with the claims are not clear. For examining purposes, it is presumed that it is claiming light compared to an unknown standard, and that any standard would therefore due and the limitation would therefore be met.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

**Claims 1-3, 5-6 are rejected under 35 U.S.C. 102(b) as being anticipated by Shulman 4545648.**

Claim 1 is written to a semi-transmissible reflector comprising a light-transmissible polymer substrate uniaxially drawn to have uniaxial orientation characteristic, and a semi-transmissible reflection layer formed on said light-transmissible polymer substrate. Schulman et al discloses a liquid crystal device with a uniaxially stretched polarizer with a transfective layer deposited upon it. Specifically, Schulman indicates:

" In FIG. 3, a preferred transfecter embodiment is depicted in which a nacreous transfecter layer 48 is disposed on one side of an optical polarizer element 42. Optical polarizer element 42 is a polyvinyl alcohol-iodine complex synthetic polarizer. The polarizer element comprises a unidirectionally stretched, linearly oriented polyvinyl alcohol sheet 45 (the linear molecular orientation represented by lines 43) stained with a polyiodide solution (the dye represented by dots 44) and sandwiched between two transparent isotropic plastic sheets 46 and 47, typically cellulose acetate butyrate. Nacreous layer 48, comprising pigment platelets 50 dispersed in binder medium 49, is coated on one side of the polarizer element 42 to form a unitary polarizer/transfecter element 52. This polarizer/transfecter element is used in a display device as the rear polarizer element with its polarizer side 42 facing the front of the device and the transfecter side 48 facing the rear. "

Shulman also shows a polarizer on the other side of the liquid crystal cell. The backlight and claimed function are shown. Therefore, these claims are anticipated by Shulman.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

**Claims 1-3, 5-9, 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bigelow 4093356 in view of Kashnow 3912369 and Penz et al 4533214.**

Bigelow discloses a liquid crystal device with a transfectors 28,  $\frac{1}{4}$  waveplate 35 and polarizer 40. It lacks the transfectors being formed on a uniaxially drawn material. Quarter waveplates were conventionally uniaxially drawn to get their birefringent

property (to the extent that it is arguably inherent). The technique was used because it was cheap. Therefore it would have been obvious, to one of ordinary skill, to employ a uniaxially drawn material as was conventionally done for the benefit of being cheap.

Bigelow still shows the transflectors having a metal layer, the silver layer, on a glass layer not the waveplate. Kashnow discloses a reflector can be done via deposition of a metal on the waveplate (col. 3, lines 20-35), which would save one layer and therefore be lighter and cheaper. Although Kashnow is written to a reflector, a partial reflector was the same thing, using a deposited metal as discussed in both references, however with the partial reflector only deposited part way in thickness (and henceforth having light transmissibility) or having holes to let light through, so the teaching is still relevant. Therefore it would have been obvious, in the device of Bigelow, to employ depositing a metal on the waveplate (either one) for the benefit of lower cost and lighter weight.

Penz offers a different motivation for employing a uniaxially drawn material as the layer the metal is deposited on, teaching that substrates of such drawn polymers have the advantage of being lighter than glass and stronger and more chemically stable than isotropic polymers. Therefore it would have been obvious to one of ordinary skill, in the device of Bigelow, to employ the drawn polymer of Penz for layer to deposit the silver on for the benefit of being light, strong and stable. Kashow shows that metals can be deposited on polymers, showing that the teaching is relevant.

Regarding the reduction of light, the interpretation given in light of the rejection under 112 was that the comparison was to some unknown standard. However, it was well known that optical parts should be as transmissive as possible and not

unnecessary reduce light going through them so as to not waste energy. Therefore it would have been obvious to one of ordinary skill not to unnecessarily reduce the light for the benefit of avoiding unnecessary waste of energy

**Claims 7- 9 and 12 are rejected under 35 U.S.C. 103(a) as being  
unpatentable over Shulman 4545648**

Lacking is the disclosure of the polarizer being stuck to the rest of the device, and the limitation on the reduction of light. The Shulman reference shows a schematic type drawing with the parts floating in respect to each other. Conventionally, the elements were glued together, so the device would not fall apart upon use. Therefore one of ordinary skill would have known that they needed to glue the parts together for the benefit of having them not fall apart. Regarding the reduction of light, the interpretation given in light of the rejection under 112 was that the comparison was to some unknown standard. However, it was well known that optical parts should be as transmissive as possible and not unnecessarily reduce light going through them so as to not waste energy. Therefore it would have been obvious to one of ordinary skill not to unnecessarily reduce the light for the benefit of avoiding unnecessary waste of energy.

**Claims 4-6 and 10-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shulman 4545648 as applied above and further in view of Culley et al 4228574.**

Lacking is the disclosure of the polarizers being parallel (the orientation of the translector's stretched substrate parallel to the attached polarizer. Culley shows that the polarizer can be done either way, therefore evidencing that the two were well known functionally equivalent alternatives (they were well known for allow choice of normally on or normally off). Therefore it would have been obvious to one of ordinary skill, in the device of Shulman, to employ parallel polarizers as the two were functionally equivalent alternatives and for the ability to choice normally on or normally off.

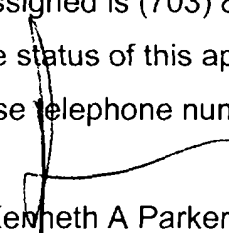
### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kenneth A Parker whose telephone number is 703-305-6202. The examiner can normally be reached on 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert H. Kim can be reached on 305-3492. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 308-0956.

  
Kenneth A Parker  
Primary Examiner  
Art Unit 2871



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